Findings of Routine Diagnostic Ankle Arthroscopy for AO 44-C Fibular Fractures

Daniel M. Dean, MD
Nicholas Casscells, MD
Francis X. McGuigan, MD
Disclosures

No conflicts to disclose:
Daniel M. Dean, MD
Nicholas Casscells, MD
Francis X. McGuigan, MD
Introduction

Maisonneuve fractures and Weber C fibular fractures associated with high rates of syndesmotic injury (70%)\textsuperscript{8}

Acute syndesmotic injury associated with subluxation of ankle and often frank dislocation\textsuperscript{5,9,11}

Subluxation and dislocation events can lead to chondral injury and intra-articular pathology (75%)\textsuperscript{4}
Introduction

- Full thickness cartilage lesions associated with arthrofibrosis, recurrent swelling, and continued pain\(^6,10\)
- Osteochondral lesions of the talus effectively managed with chondroplasty \(^1,2,7,10\)
- One previous study of 4 patients looking specifically at Maisonneuve fractures found an incidence of chondral lesions on arthroscopic evaluation of 100\%\(^10\)
- No larger case series published on topic
Introduction
Purpose

1. Define the incidence of intra-articular pathology associated with acute AO 44-C fibular fractures
2. Identify any predictive factors associated with higher incidence of osteochondral lesions in patients with AO 44-C fibular fractures
Methods

- Retrospective review of patients with AO 44-C fibular fractures who underwent ankle arthroscopy as part of operative management from 2011-2015
- Inclusion criteria: Skeletally mature, underwent ankle arthroscopy prior to ORIF
- Exclusion criteria: Delayed presentation (> 2 wks), pilon variants, prior ankle surgery, incomplete medical records
- Collected demographic information including age, sex, and BMI
- Injury characteristics reviewed from radiographs and medical records
- Operative reports reviewed for details of arthroscopic findings
- Descriptive statistics performed
- Subgroup analysis performed comparing group with osteochondral lesions to those without osteochondral lesions
- Continuous variables analyzed with student’s t-test and categorical variables evaluated using Pearson’s chi square test
Results

- 17 patients included in study (5 Maisonneuve, 12 Weber C)
- Average age = 38.8 years (range 17-61)
- 6 Female, 11 Male
- 13/17 (76.5%) with osteochondral lesion
- 12/17 (70.6%) with loose bodies
- 17/17 (100%) with loose body or osteochondral lesion
Results

- Group with osteochondral lesions (35.3 years) significantly older than group without chondral lesions (51.3 years) ($p=.020$)
- No significant difference in BMI, gender, or rates of fracture-dislocations
Conclusions

1. High rates (100%) of intra-articular pathology associated with acute AO 44-C fibular fractures
2. 76.5% of patients had osteochondral lesions on ankle arthroscopy
3. Patients with osteochondral lesions were significantly older than those without
Recommendations

• Routine ankle arthroscopy for Maisonneuve and Weber C fibular fractures may be warranted.
• Further prospective studies comparing long-term outcomes in patients who underwent arthroscopic evaluation to those who did not for AO 44-C fibular fractures warranted.
References


